

## 3.19 Scenic Quality

This section analyzes the effects on scenic quality from implementation of the Proposed Action or alternatives to the Proposed Action. The analysis primarily entails the identification and description of changes to scenic resources in the landscape. Scenic quality is the essential resource that supports the recreational activity of “sightseeing” discussed in Section 3.20, Recreation. Other potential aesthetic impacts associated with odor, noise and physical contact are described in Sections 3.2, Water Quality, 3.4, Algae, 3.9, Air Quality, 3.20, Recreation, and 3.23, Noise and Vibration.

### 3.19.1 Area of Analysis

The area of analysis for the evaluation of scenic quality includes the vicinities and the areas within sight lines of the Four Facilities, as well as areas identified as construction/demolition areas and staging areas for the Proposed Action and alternatives. The area of analysis also includes the Upper Klamath Basin where activities associated with the implementation of the Klamath Basin Restoration Agreement (KBRA) could occur. Because retention or removal of these dams could affect scenic quality aspects such as water clarity, fish viewing opportunities, and riparian and channel characteristics of the river below the dams, the area of analysis also includes the Klamath River from Iron Gate Dam to the Pacific Ocean.

### 3.19.2 Regulatory Framework

Scenic resources within the area of analysis are regulated by several federal, state, and local laws and policies, which are listed below.

#### 3.19.2.1 Federal Authorities and Regulations

- Federal Land Policy and Management Act (43 U.S.C. 1701 et seq.)
- Clean Water Act (33 USC § 1251 et seq.)
- Bureau of Land Management Draft Upper Klamath River Management Plan Environmental Impact Statement/Environmental Impact Report (EIS/EIR) and Resource Management Plan Amendments
- Bureau of Land Management Visual Resource Management Methodology
- U.S. Forest Service, Klamath National Forest Land and Resource Management Plan
- Wild and Scenic Rivers Act (WSRA) (16 U.S.C. 1271 et seq.)
- Redding Resource Area Resource Management Plan (RMP) and Record of Decision (ROD)
- Klamath Falls Resource Area RMP, ROD, and Rangeland Program Summary
- U.S. Forest Service, Six Rivers National Forest Land and Resource Management Plan
- U.S. Forest Service Scenery Management System

### **3.19.2.2 State Authorities and Regulations**

- Oregon Parks and Recreation Department, Klamath River Scenic Waterway Rules (Oregon Revised Statute [ORS] 390 et seq.)
- California Wild and Scenic Rivers Act

### **3.19.2.3 Local Authorities and Regulations**

- Siskiyou County General Plan
- Siskiyou County Zoning Ordinance
- Klamath County Comprehensive Plan
- City of Klamath Falls Comprehensive Plan
- City of Klamath Falls Community Development Ordinance
- City of Klamath Falls Parks Recreation and Open Space Master Plan

### **3.19.3 Existing Conditions/Affected Environment**

This section provides an overview of the basin's scenery resources and how these resources are identified and analyzed through the Visual Resource Management (VRM) process. A description of scenic resources, as defined by the Bureau of Land Management (BLM), will be used as the No Action basis for comparison. Per the BLM VRM system, impacts to the affected environment will be evaluated by measuring potential impacts to the current Visual Resource Inventory (VRI) (namely scenic quality condition) as well as perceivable contrast with the characteristic landscape when viewed from Key Observation Points (KOPs).

In response to the Federal Land Policy and Management Act and subsequent agency-specific regulations, federal land management agencies such as the BLM and U.S. Forest Service (USFS) developed systems specifically designed to inventory, evaluate and manage for scenic (visual) resources on public lands. To evaluate scenic resources under BLM jurisdiction and to develop management objectives for those resources, the BLM developed the VRM system. BLM's VRM policy consists of three primary components; 1) Maintaining an up-to-date VRI, 2) Establishing VRM Classes as part of RMPs, and 3) Evaluating Project Planning for physical impacts and plan conformance (BLM 2007).

VRI consists of three data components; scenic quality, visual sensitivity, and distance zones (BLM 2007). Together, these three elements comprise a final VRI class that reflects the current physical condition of the visual resource within a geographic area. Thus, this information should serve as one part of an effects analysis within project planning as part of the existing condition/affected environment section. Current state of BLM VRI will be described under the Affected Environment section.

VRI information is considered along with other resource conditions and goals during RMP analysis in order to delineate final VRM Classes for every acre of BLM land. These management classes are **not** equivalent to the physical condition of the visual resource, but instead, equate to the management goal for a particular area. All BLM lands are assigned one of four VRM Classes, ranging from Class I, which reflects the highest value and protection for scenery, to Class IV, which reflects the least value and

protection for scenery. The VRM Classes represent the baseline for determining plan conformance during project planning. The nature of VRM Class designations applicable to the planning area are described later in this section.

During project planning, the contrast-rating system process (BLM 2007) is used to help assess the degree of visible contrast within primary landscape features, with respect to landscape character elements of form, color, line, and texture. The contrast-rating system is utilized to not only assess the potential physical impacts from ground disturbing activities (and thus impacts to the visual resource inventory, or existing conditions), but also can be used to help determine project conformance. Degrees of contrast in a range of none/weak/moderate/strong roughly coincide with VRM Class I, II, III, and IV, accordingly.

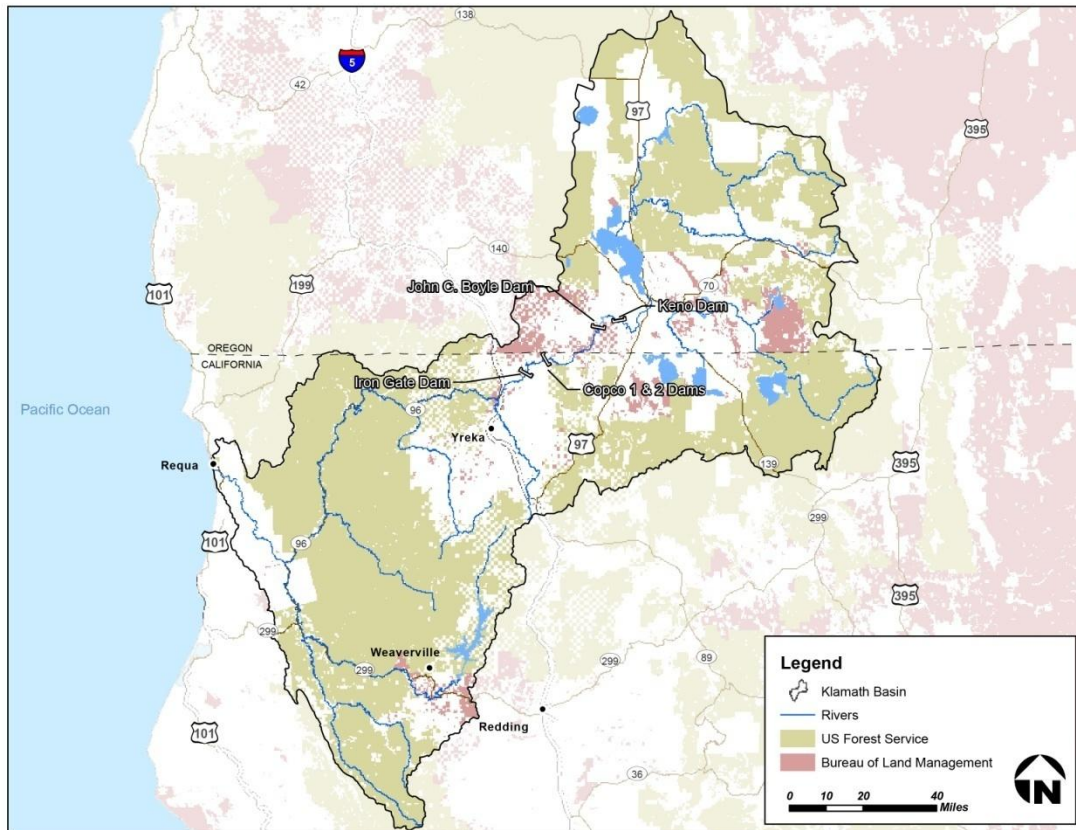
The USFS has a parallel system, known as the Scenery Management System (SMS). The primary components of the SMS are similar to BLM's VRM system (e.g., BLM's scenic quality versus SMS' inherent scenic attractiveness; visual sensitivity/ public concern levels, and distance zones/seen areas and distance zones).

Ownership of lands varies geographically across this Project (see Figure 3.19-1). While the description of the scenic resources within a particular land management agency's jurisdiction will be referenced in respect to agency system terminology, to obtain consistency, the BLM's VRM methodology will be used for the entire Project area in terms of describing the potential physical effects to scenic quality, even though only a portion of the project area is actually subject to BLM VRM management objectives.

#### **Applicable Visual Resource Management Class Designations within the Planning Area**

The area of the dam sites contains no Class I visual resources. The lands in the area of analysis primarily fall under two classes:

- **Class II** The objective of this class is to retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.
- **Class III** The objective of this class is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape (BLM 2007).



**Figure 3.19-1. Project Area Land Ownership for BLM and USFS**

Currently, there is no up-to-date VRI record on file for the project area, only final VRM Classes for the area. Project level inventory information should be gathered for activity level planning in order to help determine impacts to the physical condition of the visual environment, where VRI information does not exist. For the purposes of this document, the site-specific, project level inventory would be limited to the area of analysis as defined in Section 3.19.1 and based upon a combination of original data from the 2004 PacifiCorp Technical Report with additional analysis from several KOPs.

The following represent the conclusions for the baseline VRI within the project area, according to the three components (scenic quality, visual sensitivity, distance zones).

In terms of scenic quality, BLM policy requires all public land to be classified as either Class A, B, or C scenic quality, with A being the most distinctive and Class C being the most common, in terms of variety of key factors such as; color, water, vegetation, landform, influence of adjacent scenery, scarcity, and cultural modifications (BLM 2007). Analysis by the Lead Agencies concluded that all of the project area would be contained within Class A landscapes because of the following key factors:

- **Color** - Some intensity or variety in colors and contrast of the soil, rock and vegetation, but not a dominant scenic element
- **Water** – Water flowing or still, dominant in the landscape when viewed from most KOPs, but not always clear and clean appearing
- **Vegetation** - A variety of vegetative types as expressed in interesting forms, textures, and patterns
- **Landform** - Steep canyons, some interesting erosional patterns or variety in size and shape of landforms; or detail features which are interesting though not dominant or exceptional
- **Influence of adjacent scenery** - Adjacent scenery moderately enhances overall visual quality
- **Scarcity** - Distinctive, though somewhat similar to others within the region
- **Cultural modifications** – Some modifications add favorably to visual variety while other add little or no visual variety or may be discordant

Based on the point system assigned to each of these key factors, the scenery in the project area scores within the range of Class A scenic quality.

In terms of visual sensitivity, BLM policy requires all landscapes be rated as either High, Moderate, or Low to document the public's relative level of concern for visual quality. The Lead Agencies concluded that all of the project area would be considered High visual sensitivity because recreational sightseers are highly sensitive to changes in visual quality, public interest and controversy created in response to proposed activities, portions of the area of analysis are within the viewshed of residential areas, and most of the Klamath River has been designated under the WSRA.

In terms of distance zone analysis, BLM policy requires all public lands be classified within either a Foreground-Middleground, Background, or Seldom Seen classification. The Lead Agencies concluded that all of the project area would be located with the foreground-middleground distance zone because of the proximity of views from recreational access sites along the river, campgrounds, KOPs along scenic highways, riverside and/or reservoir communities and residences, rivers, or other viewing locations are less than 3 to 5 miles away.

Thus, in combining these three layers according to BLM's VRI Matrix (Table 3.19-1), the project area would be classified as a VRM II (Class A scenic quality of high visual sensitivity as viewed from a foreground/ middleground distance zone – see highlighted cells in VRI Matrix shown in Table 3.19-1), from an inventory context.

Several river segments within the Klamath Basin have been designated under the WSRA. Four of these Wild Scenic Rivers (WSR) segments could potentially be affected by dam removal: the Klamath River (Oregon and California segments), the Sprague River and the Sycan River. The Sprague River and Sycan River are in the Fremont-Winema National Forest. Potential scenic impacts to these rivers could result from KBRA project implementation.

**Table 3.19-1. Visual Resource Inventory Matrix**

		Visual Sensitivity						
		High			Medium			Low
Special Areas		I	I	I	I	I	I	I
Scenic Quality	A	II	II	II	II	II	II	II
	B	II	III	III*	III	IV	IV	IV
	C	III	IV	IV*	IV	IV	IV	IV
				IV				
	f/m	b	s/s	f/m	B	s/s	s/s	s/s
DISTANCE ZONES								

Source: BLM 2007

Notes:

Highlighted cells indicate visual resource inventory determinations for the affected environment

\*If adjacent area is Class III or lower assign Class III, if higher assign Class IV

Key:

b: background

f/m: foreground/midleground

s/s: seldom seen

When the California portion of the Klamath River was designated under the WSRA in 1981, “outstandingly remarkable” recreational or scenic values were not identified, only “outstandingly remarkable” fisheries values. Scenic values along Wild and Scenic Rivers are protected by the WSRA to various degrees but all segments have requirements to maintain at least a generally natural appearance along their waterways. The natural appearing scenic quality within the more immediate and prominent portions of these rivers is protected along these segments by both the WSRA and Forest Land and Resource Plans.

In 1990, BLM found the 5.3-mile section of the Klamath River from the Oregon-California state line to the slack water of Copco 1 Reservoir to be eligible and suitable for WSR designation. The river segment is free-flowing and possesses outstandingly remarkable scenic, recreational, fish, and wildlife values. This river segment is not a designated WSR and is not protected under the WSRA and its Section 7(a) requirements. BLM is required within its authorities, to protect this suitable river segment’s free-flowing character, water quality, and outstandingly remarkable river values. This segment of the Klamath River is also listed on the Nationwide Rivers Inventory (National Parks Service [NPS] 2009).

For the Federal Energy Regulatory Commission (FERC) Final Environmental Impact Statement (FEIS) (2007), PacifiCorp conducted a detailed visual evaluation of the project vicinity as summarized in the FEIS (2007) and documented it in the *Land Use, Visual, and Aesthetic Resources Final Technical Report* (PacifiCorp 2004). This evaluation involved identifying and photographing KOPs during different seasons and the reservoirs

at different water levels in 2002 and 2003. Figure 3.19-2 shows the locations of the KOPs in the PacifiCorp (2004) report. The results of this study are used in the Klamath Facilities Removal EIS/EIR to establish the existing environmental setting of the area of analysis, and are described below. To verify that current conditions are similar to 2003 conditions, photographs taken from selected locations in October 2010 were compared to the 2003 photographs. Appendix Q presents this comparison. In addition, photographs from the FERC FEIS (2007) are included in Appendix Q to identify typical scenic/landscape character along the Klamath River, including its elements of canyon-walled enframement, channel configuration, water clarity, bank and riparian appearance.

#### **3.19.3.1 Klamath Basin**

The Klamath Basin contains widely varied scenic resources, including wetlands, upland, rangeland, National Wildlife Refuges (NWRs), farmland, timberlands, and urbanized areas in Klamath Falls. Section 3.5, Terrestrial Resources, provides detailed descriptions of the landscape along the Klamath River throughout the area of analysis. Sightseeing opportunities to enjoy the scenic resources are widely available in the Klamath Basin generally, and more specifically within its three segments (above, between and below the reservoirs). The Upper Klamath Basin includes the headwaters of the Klamath River in south-central Oregon and north-central California, and contains Reclamation's Klamath Project. Scenery in the area served by Reclamation's Klamath Project includes agricultural areas and the Upper Klamath Basin NWR Complex, which comprises six refuges. Regionally, a variety of public lands contain notable scenic resources. Table 3.20-1 in Section 3.20, Recreation, lists locations in the area of analysis and surrounding region that offer wildlife viewing, and opportunities for sightseeing, leisure driving, photography, and other forms of recreation that benefit from scenic quality within the area of analysis. Section 3.20, Recreation, discusses recreation resources and includes the activity of sightseeing as a key element of the recreation experience.

The Upper Klamath Basin is the area of analysis for scenic resource effects that would be associated with implementation of the KBRA. However, specific locations for actions associated with implementation of the KBRA have yet to be identified, so no specific analysis is possible regarding the effects that would be associated with KBRA implementation in the Upper Klamath Basin. Instead, general effects of the multiple components of the KBRA on scenic resources in the Klamath Basin will be discussed.

The area of analysis for the Klamath Hydroelectric Settlement Agreement (KHSA) Four Facilities removal actions includes the Klamath River from J.C. Boyle Dam to the Pacific Ocean and the structures of the J. C. Boyle, Copco 1, Copco 2, and Iron Gate Facilities. The following sub-sections describe scenic resources in the area of analysis.

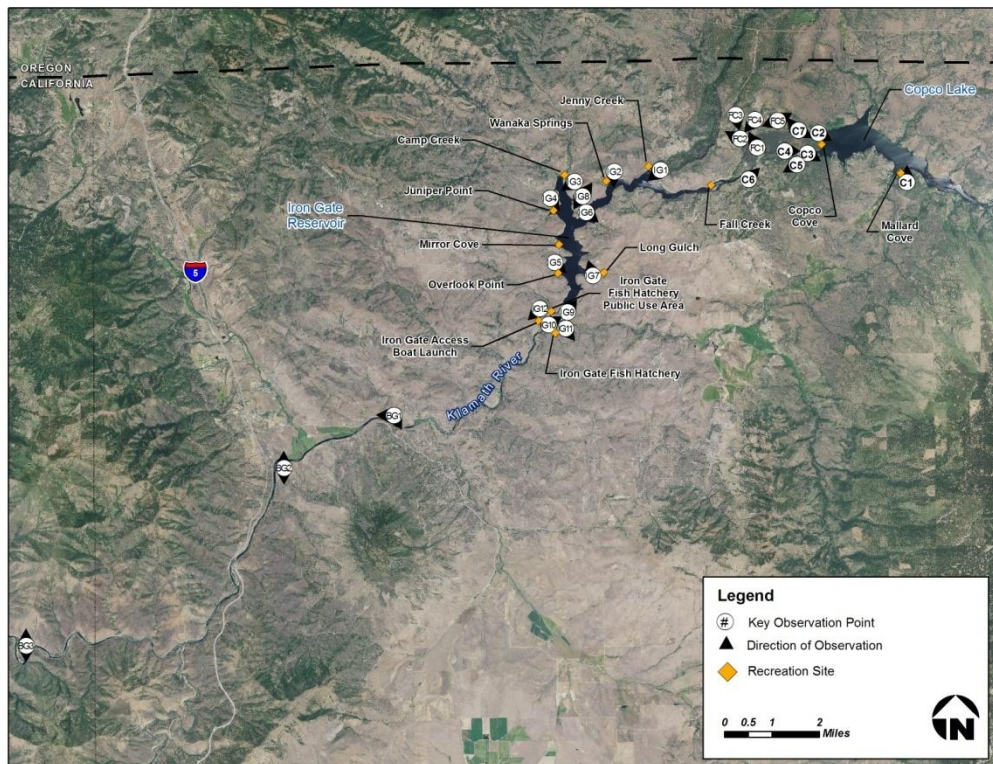
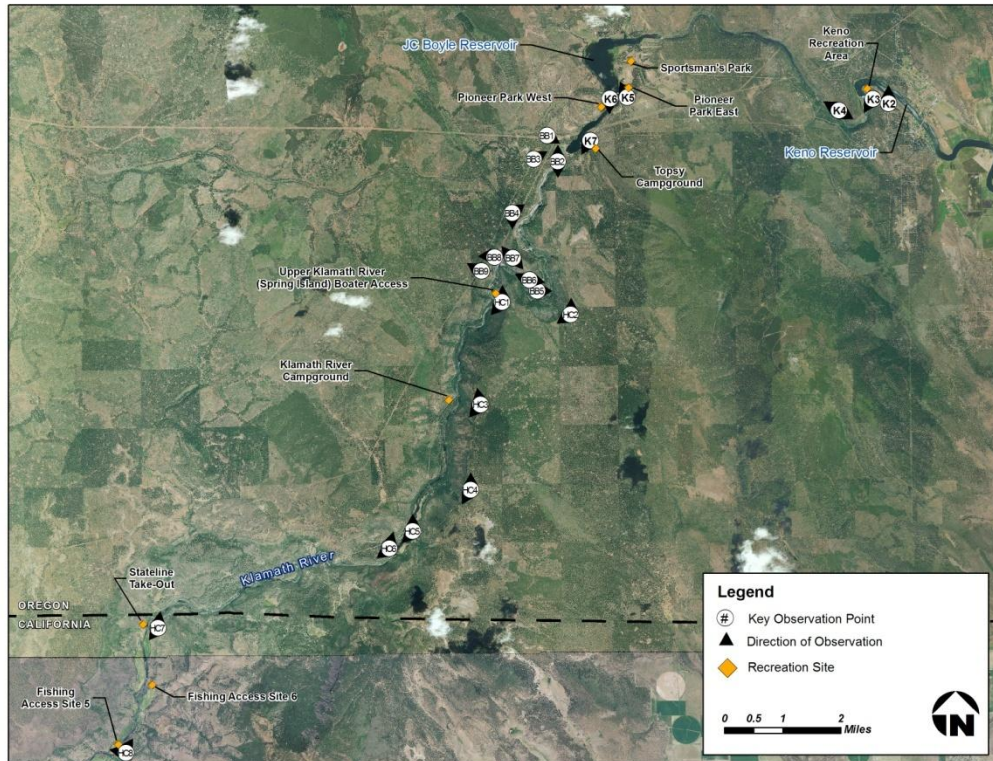


Figure 3.19-2. Key Observation Points from PacifiCorp (2004) Report

### **3.19.3.2 Klamath River**

PacifiCorp (2004) viewed 7 KOPs from Keno Impoundment to the J.C. Boyle Reservoir, 9 KOPs in the J.C. Boyle bypass reach, 8 KOPs in the Hell's Corner Reach (the river between J.C. Boyle Powerhouse and Copco 1 Reservoir), 7 in the Copco 1 Reservoir area, 12 in the area of Iron Gate Reservoir, and 3 downstream of Iron Gate Dam. Many of the reaches have similar general characteristics with the aesthetic differences between high flows and low flows varying depending on the individual physical features (e.g., rocks, vegetation, bends, width of channel, depth of water) of each reach. During low flows, more rocks and vegetation were visible at the river edges than at high flows.

These KOPs are not intended to be comprehensive, but were selected to represent typical views (including scenic overlooks) for members of the public from riverside and/or reservoir communities and residences, recreational access sites, campgrounds, Scenic Byways (Highway 96/State of Jefferson Scenic Byway and Highway 96/Bigfoot Scenic Byway), State Highways 96, 169, and 101. Other "sightseeing areas" below Iron Gate Dam could have potential scenery effects to sensitive public viewpoints.

Klamath River components are part of the National Wild and Scenic Rivers System (NWSRS) because of their free-flowing condition and "outstandingly remarkable" values. Scenery associated with WSRs is protected by the WSRA. Scenery within two WSR segments of the Klamath River could be affected by the project alternatives:

- Oregon Klamath River Component. The segment of the Klamath River beginning immediately downstream of the J.C. Boyle Powerhouse and flowing 11 miles to its terminus at the Oregon-California State Border is classified as scenic and possesses outstandingly remarkable scenic use values. The Upper Klamath River (upstream of Iron Gate Dam) was evaluated by BLM in 1977 and 1981, and received a Class A scenic quality rating, the highest scenic quality classification. The 2006 Preliminary Determination Report (completed for the Section 7 WSR requirement during FERC relicensing of the PacifiCorp facilities) stated that the Upper Klamath WSR increased the visual variety in the canyon flowing through diverse topography and dropping to form a series of pools and rapids. The unique landforms, water, and vegetation create an ever-changing landscape from desert to more mountainous terrain, and steep canyons and vertical cliffs with diverse vegetation (Bonacker et al. 2007).
- California Klamath River Component: The mainstem segment of the Klamath River beginning 3,600 feet downstream of Iron Gate Dam and flowing 189 miles to the Pacific Ocean mainstem is classified as recreational with portions of the tributaries classified as scenic and wild. Scenery within the California Klamath WSR is dominated by natural settings. Its characteristic river flows, water appearance, anadromous fish and riparian vegetation within a forested river canyon are the primary scenic aspects. Since 1981, flow regimes have varied moderately in response to water resource competition within the Klamath Basin. During summer months, these have typically been caused by water diversions (Van de Water et al. 2006). As described in Sections 3.2, Water Quality, and 3.20,

Recreation, reduced water clarity and discoloration resulting from algae blooms has impaired the scenic character of reaches downstream of Iron Gate Dam (River Mile [RM] 190.1) to the mouth of the Klamath River (RM 0.0).

### **3.19.3.3 Dam Settings**

#### **Reservoirs**

PacifiCorp (2004) described the area landscape from 11 KOPs in the vicinity of the reservoirs, including 3 in the J.C. Boyle Reservoir area, 2 in the Copco 1 Reservoir area, and 6 in the Iron Gate Reservoir area. All reservoirs were viewed under high pool and low pool conditions, and at J.C. Boyle Reservoir and Copco 1 Reservoir the maintenance condition was also observed. In general, the reported visual observations of the reservoirs indicated that under normal operating conditions, the four reservoirs share the visual characteristics of open expanses of relatively flat water. Also, as described in Sections 3.2, Water Quality, and 3.20, Recreation, reduced water clarity and discoloration from algae blooms occur seasonally, typically peaking in late summer to early fall (Karuk Tribe of California 2009).

#### **Project Facilities**

PacifiCorp viewed project area scenic characteristics at the following 10 KOPs of the project facilities (alphanumeric designations refer to KOP designations and accompanying photographs in the PacifiCorp (2004) report):

- BB1: J.C. Boyle Dam
- BB8: J.C. Boyle Powerhouse and Penstocks
- BB9: J.C. Boyle Transmission Line
- C3 Copco 1 Dam and Powerhouse
- C4: Copco 2 Dam
- C6: Copco 2 Powerhouse
- C7: Copco Transmission Line
- IG8 Iron Gate Transmission Line
- IG9 Iron Gate Dam and Powerhouse from Iron Gate Fish Hatchery
- IG10 Iron Gate Fish Hatchery and Fish Ladder

In the PacifiCorp (2004) report, the views of the project facilities from these KOPs were characterized using the BLM VRM system. The report describes each of the facilities in the context of the BLM VRM classification for the surrounding area. These observations may be summarized by facility as follows:

- **J.C. Boyle Facilities** - The PacifiCorp report concluded that the J.C. Boyle Dam, Powerhouse, penstocks, and transmission line were not consistent with VRM Class II and III of the surrounding area. Although the line of the dam follows the site's topography, its large size makes it very noticeable against the natural setting. The powerhouse and penstocks have prominent colors and strong lines, which make them also apparent in the landscape. Although the transmission line

is distant from the viewer, it rises above other features in the distance and is visible for its length and height.

- **Copco 1 Facilities** - Copco 1 Dam and Powerhouse were not considered to be consistent the VRM Class III of the surrounding area. The size and prominence of these facilities were considered to dominate the view from the KOP. However, the Copco transmission line was typically at a distance from the viewing points and would blend into the sky and not obstruct views of other parts of the landscape. Thus, the transmission line was considered to be consistent with VRM Class III objectives.
- **Copco 2 Facilities** - Copco 2 Powerhouse was not considered to be consistent with of the VRM Class III of the surrounding area because its size and prominence dominates the view from the KOP. On the other hand, although the Copco 2 Dam is large, it has been designed with colors and lines that blend with the landscape, and when viewed in isolation, could hence be considered to be consistent with VRM Class III objectives.
- **Iron Gate Facilities** - The Iron Gate Dam, Powerhouse, and transmission lines were considered to be consistent with the VRM Class III objectives of the surrounding area in detailed visual evaluation of the project vicinity as summarized in the FEIS (2007) and documented it in the *Land Use, Visual, and Aesthetic Resources Final Technical Report* (PacifiCorp 2004). Although the dam and powerhouse are large, their colors and lines blend with the landscape. Similarly, the transmission line was typically at a distance from the viewing points and would blend into the sky and not obstruct views of other parts of the landscape. In instances where the support poles of the transmission lines were prominent, it was only for a short time while a viewer walks or drives by.

### 3.19.4 Environmental Consequences

#### 3.19.4.1 Effects Determination Methods

To determine the significance of effects on scenic resources, the Lead Agencies inventoried the scenery that would be affected by the Proposed Action and alternatives; identified the changes that would occur to those scenic resources in terms of degree of contrast, relative size or scale, distance, and visibility; and the magnitude of the potential changes. The effects method involves two stages: inventory and analysis.

#### Inventory

In the inventory stage, the Lead Agencies identified sensitive sightseeing areas within the watershed using maps of the Klamath Basin that identify land ownership, zoning, existing land use, roads, floodplains, notable scenic features and KOPs. Areas considered for sightseeing included riverside and/or reservoir communities and residences, recreational access sites, campgrounds, Scenic Byways (Highway 96/State of Jefferson Scenic Byway and Hwy 96/Bigfoot Scenic Byway), State Hwys 96, 169, and 101. The Lead Agencies determined the relative visibility from travel routes or observation points, or specific points with views of the Klamath River and the Four Facilities to show the characteristic landscape types found at significant viewpoints. A detailed discussion of the VRI process is provided in Section 3.19.3 Affected Environment.

The area of analysis experiences four distinct seasons. Flows in the Klamath River, water levels in the reservoirs, and the appearance of vegetation vary seasonally. The Lead Agencies used the detailed visual evaluation of the project vicinity as summarized in the Final FERC EIS (FERC 2007) and documented in the *Land Use, Visual, and Aesthetic Resources Final Technical Report* (PacifiCorp 2004) to characterize the area of analysis because this report included viewing the KOPs during different seasons and at different water levels over an extended time period. This PacifiCorp report provided an assessment of a baseline measure of the scenic appeal of the Project area through a Scenic Quality Evaluation consistent with the BLM inventory process. Scenic quality and sensitivity information were delineated and/or inventoried and documented spatially, in a manner that follows physical features in the landscape in the PacifiCorp (2004) report.

### **Analysis**

For this EIS/EIR, the contrast rating worksheets provided in the BLM VRM process were not completed for the KOPs. However, these forms should be completed during project level planning and provided in the Project Specific Plan. Although the contrast rating forms were not filled out for this EIS/EIR, the scenic quality impact analysis is built on the premise that many of the scenery conservation design principles identified in the forms would be applied by the Project Specific Plan.

In the analysis stage, the Lead Agencies identified changes in scenic quality by establishing a level of contrast [i.e., no effect (visual contrast is imperceptible), weak, moderate, and strong (contrast caused by the action would be substantial)] considering effects on form, line, color, texture, and comparing to approved VRM objectives for the area (Class). The Lead Agencies also determined whether the techniques that would be used in the Proposed Action and alternatives would ensure that surface-disturbing activities would harmonize with the surrounding natural environment. The Lead Agencies also considered light pollution effects that could be generated during construction.

It should be noted that a significance in visual contrast as defined under the BLM VRM system is not necessarily the same as a significance determination for the purposes of this document. The BLM VRM process is used as guidance for assessing the impacts of the proposed action and alternatives. The significance criteria used for significance determination for the purposes impact analyses are defined in the following section.

#### **3.19.4.2 Significance Criteria**

For the purposes of this document, an alternative would result in significant impacts if it would do any of the following:

- Cause a landscape to be inconsistent with the VRM classification of the surrounding area as defined for the purposes of this analysis.
- Result in a substantial adverse change to scenic resources, including, but not limited to landforms, trees, and rock outcroppings viewed from a river segment,

community, recreation site area, trail, scenic highway, or designated wild and scenic river reach, by altering the characteristic (i.e., natural, pre-development) state.

- Remove historic properties.
- Create a new source of light or glare that would adversely affect day or nighttime views in the area.

#### **3.19.4.3 Effect Determinations**

This section describes the potential effects of the No Action/No Project Alternative, the Proposed Action, and alternatives on scenic resources. Although the Proposed Action and alternatives would result in short-term and long-term changes in scenic resources, the scenic quality of the landscape would still remain the same as the inventoried scenic quality Class A because the changes would not significantly alter the key factors to change the determination. In fact, some of the project features may result in improvements of the key factors (e.g., water quality). The following discussion provides specific details on the impacts. The analysis considers the existing scenic character/landscape character, degree of existing disturbance and resulting scenic disturbance resulting from the proposed activity.

##### **Alternative 1: No Action/No Project**

Under the No Action/No Project Alternative, no construction or physical changes would occur; thus, there would be no changes in the short-term to the existing scenic quality of the dams, reservoirs, surrounding areas and adjacent river reaches.

*Continued impoundment of water at the Four Facilities could result in water quality impacts that could have long-term impacts on scenic quality.* As described in Section 3.2, Water Quality, degradation of water quality could continue in the long-term, if the dams are not removed. **The No Action/No Project Alternative would not change this existing condition.**

*Not removing the facilities could have the impact that they would remain inconsistent with the VRM classification of the surrounding area (where such inconsistency is defined as a criteria of significance).* PacifiCorp's analysis (2004) identified the following project features as being currently inconsistent with their VRM classification. Under the No Action/No Project Alternative, these features would remain inconsistent with their VRM classification:

- Class II VRM classification—the J.C. Boyle powerhouse and penstocks, J.C. Boyle Dam, bypass canal, and transmission line.
- Class III VRM classification—Copco No. 1 Dam and powerhouse, Copco No. 2 powerhouse and substation, and Iron Gate Hatchery and fish ladder.
- While not identified as being inconsistent with the surrounding area by PacifiCorp's 2004 analysis, Iron Gate Dam, bypass spillway, powerhouse, penstock, and associated landform and vegetation disturbances are also inconsistent with their Class III VRM classification and would remain so under

the No Action/No Project Alternative (personal communication with J. Mosier, Klamath National Forest, April 26, 2011). **The No Action/No Project Alternative would not change this existing condition.**

### **Ongoing Restoration Actions**

Under the No Action/No Project Alternative a number of Ongoing Restoration Actions are currently underway and would be implemented regardless of the Secretarial Determination on the removal of the Four Facilities.

#### **Fish Habitat Restoration Actions**

*These actions could result in short-term impacts on scenic resources during construction.*

Ongoing restoration activities for fish habitat would occur throughout the entire basin with the exception of the Trinity River basin. These activities may include floodplain rehabilitation, large woody debris replacement, fish passage correction, cattle exclusion fencing, riparian vegetation planting, mechanical thinning of upland areas to mimic natural forest conditions, fire treatment to mimic natural forest conditions, purchase of conservation easements/land, road decommissioning, gravel augmentation, and treatment of fine sediment sources. **During construction, impacts on scenic resources would be potentially significant, albeit temporary. No mitigation measures could be implemented to lessen the impact on scenic resources; therefore it would be significant and unavoidable in the short term.**

*These actions could result in long-term impacts on scenic resources.* Restoration activities would be anticipated to result in scenery more consistent with the naturally established, characteristic landscape. **Therefore, they have the potential to be beneficial to scenic resources in the long term.**

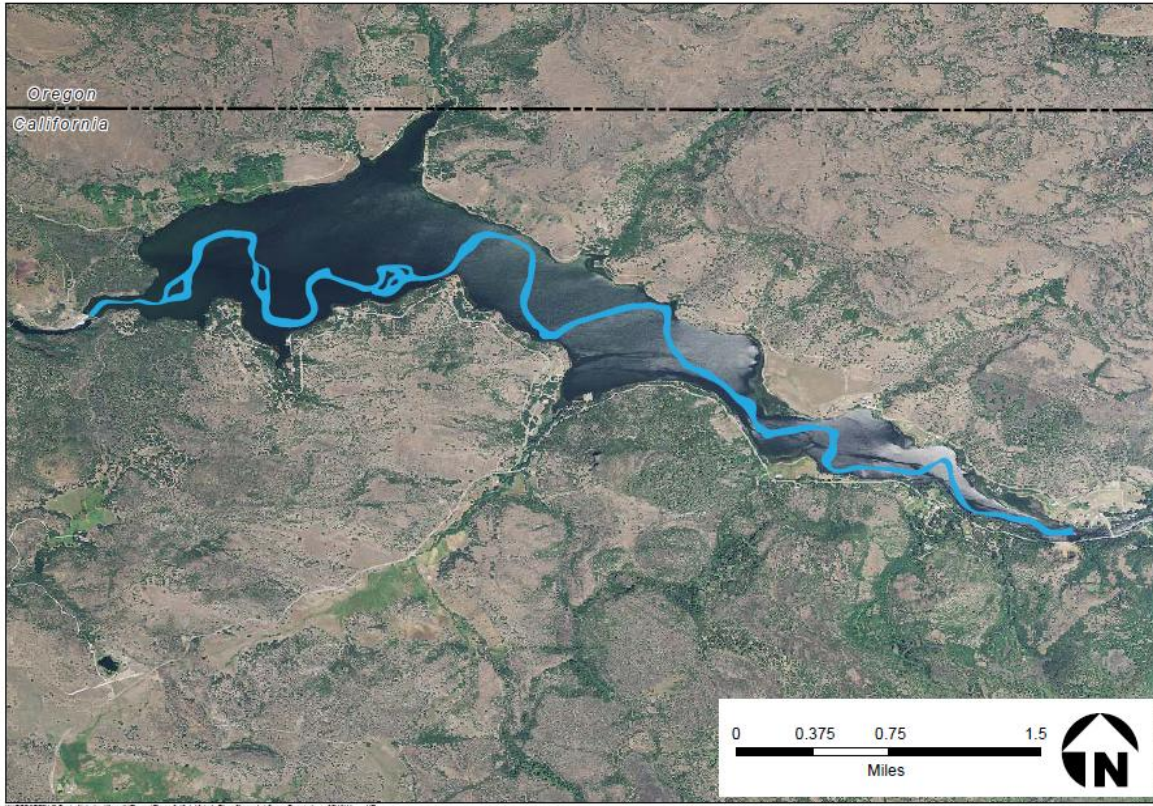
#### **Agency Lake and Barnes Ranches**

*This action could result in long-term impacts on scenic resources.* Effects could include changes in land uses, including changes from rangeland to water storage areas. These changes are intended to result in scenery more consistent with the naturally established, characteristic landscape. **Therefore, they have the potential to be beneficial to scenic resources.**

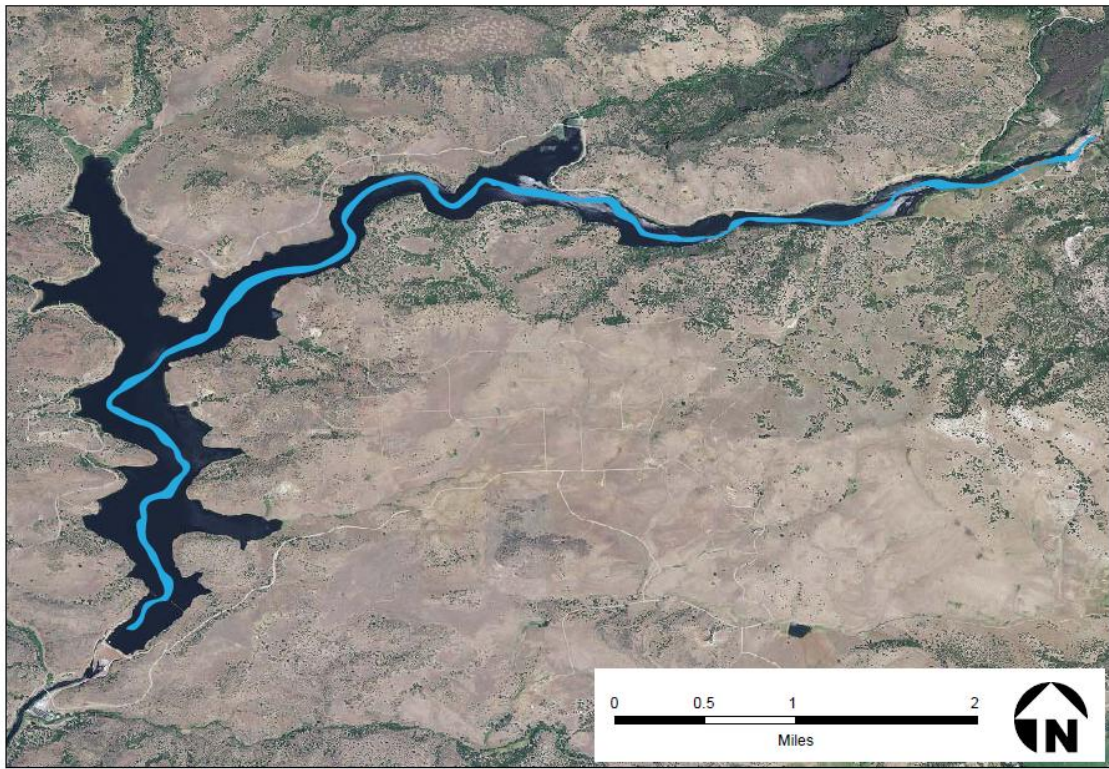
### **Alternative 2: Full Facilities Removal of Four Dams (Proposed Action)**

The Proposed Action involves removal of dams and all appurtenant features, with the exception of buried features, at the Four Facilities. The Proposed Action would include reservoir drawdown and removal of four dams. This would expose the former inundated areas to view. After drawdown, the Dam Removal Entity (DRE) would perform restoration activities of the exposed areas. Restoration plans would include stabilizing and revegetating the newly exposed reservoir areas with various herbaceous species through hydroseeding, aerial hydromulching, and planting. Various woody species would also be planted. Invasive species would be weeded out. The hard lines of the dam and large expanses of water in the reservoirs would be changed to views of large natural expanses with vegetation and a continuous river. This scenic change would be visible for a very long distance around the reservoir sites and most reservoir KOPs, and would be

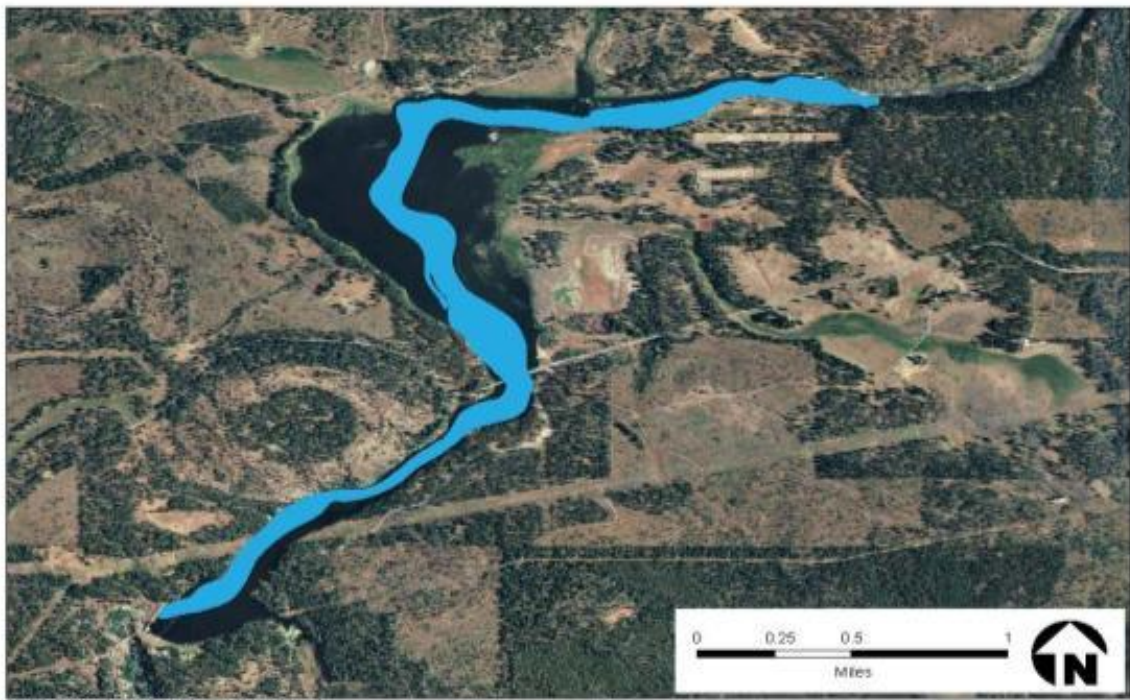
permanent. Figures 3.19-3, 3.19-4, and 3.19-5 show aerial photos of the existing reservoirs with an overlay of historic river channels. The historic channel represents what the extent of the Klamath River is expected to be in the long-term following dam removals. However, until the restoration was complete, the area would appear barren and/or sparsely vegetated.



**Figure 3.19-3 Historic River Channel for J.C. Boyle Reservoir**



**Figure 3.19-4 Historic River Channel at Copco Reservoir**



**Figure 3.19-5. Historic River Channel at Iron Gate Reservoir**

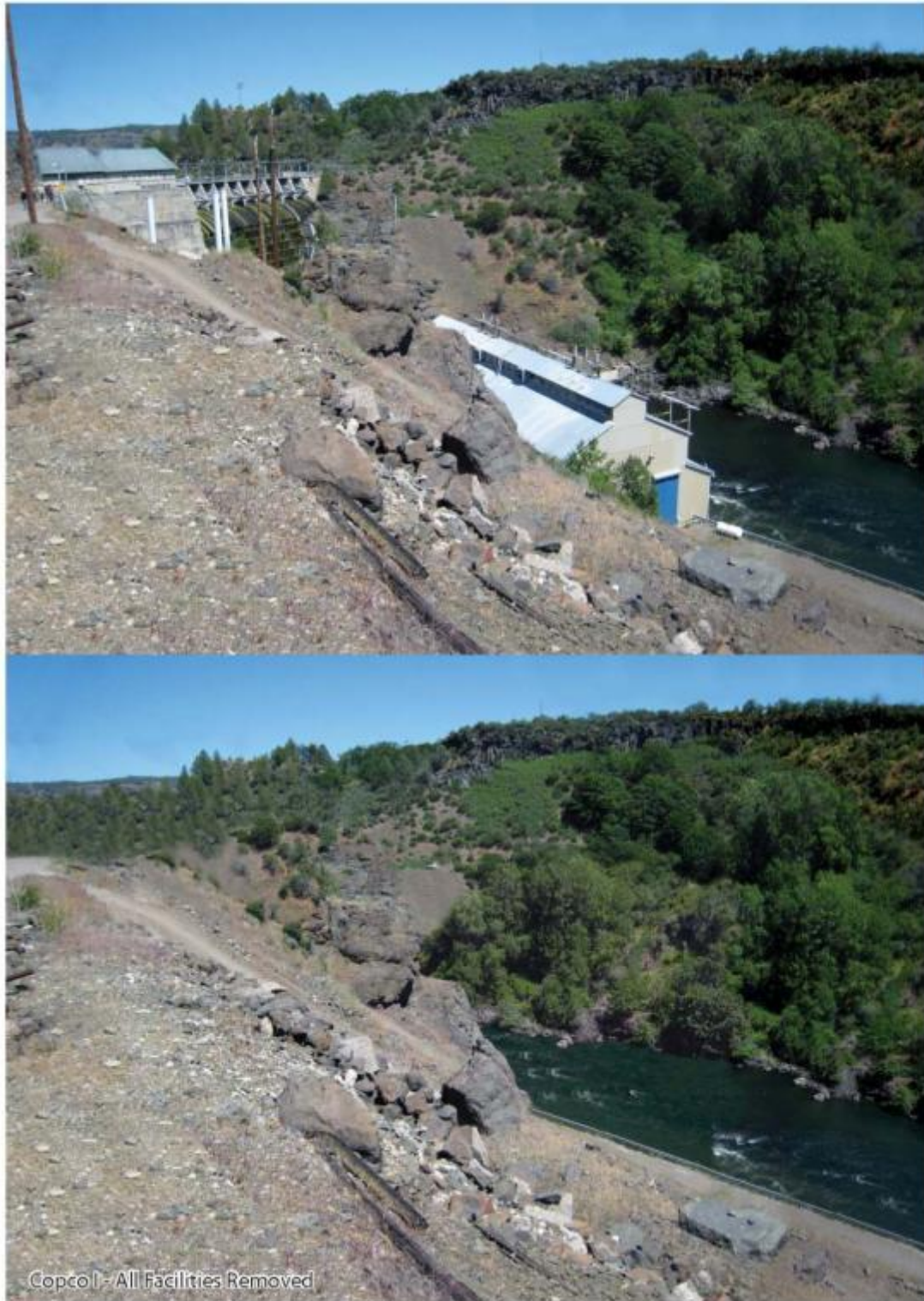
In addition, the existing water supply pipeline for the City of Yreka passes under the Iron Gate Reservoir and would have to be relocated prior to the decommissioning of the reservoir to prevent damage from deconstruction activities or increased water velocities once the reservoir has been drawn down. The pipeline would be suspended from a pipe bridge across the river near its current location. Surveys are still required to determine if the bridge is adequate to support the construction traffic from the decommissioning activities. If the existing wooden bridge is not adequate to support the construction traffic, it will be replaced in the same location with a concrete bridge. In addition, the Proposed Action includes relocation of recreation facilities, such as campgrounds and boat ramps, currently located on the reservoir banks down slope to be near the new river bed once the reservoir is removed. Activities described in the KBRA are included in the Proposed Action as connected actions.

*The Proposed Action would result in impacts on scenic resources from removal of the dams and facilities.* Under existing conditions, some of these facilities do not blend with the natural landscape and can dominate views due to their form, line, color, size or locations, particularly those that appear taller than other natural features from a distance. Since the facilities are inconsistent with the VRM classification for the surrounding area, their removal would result in a landscape that would appear more similar to the surrounding characteristic natural landscape. Figures 3.19-6 and 3.19-7 show photo-simulations of the removal of Iron Gate Dam and Copco 1 Dam, respectively. **Removal of the facilities as part of the Proposed Action would be a beneficial effect.**

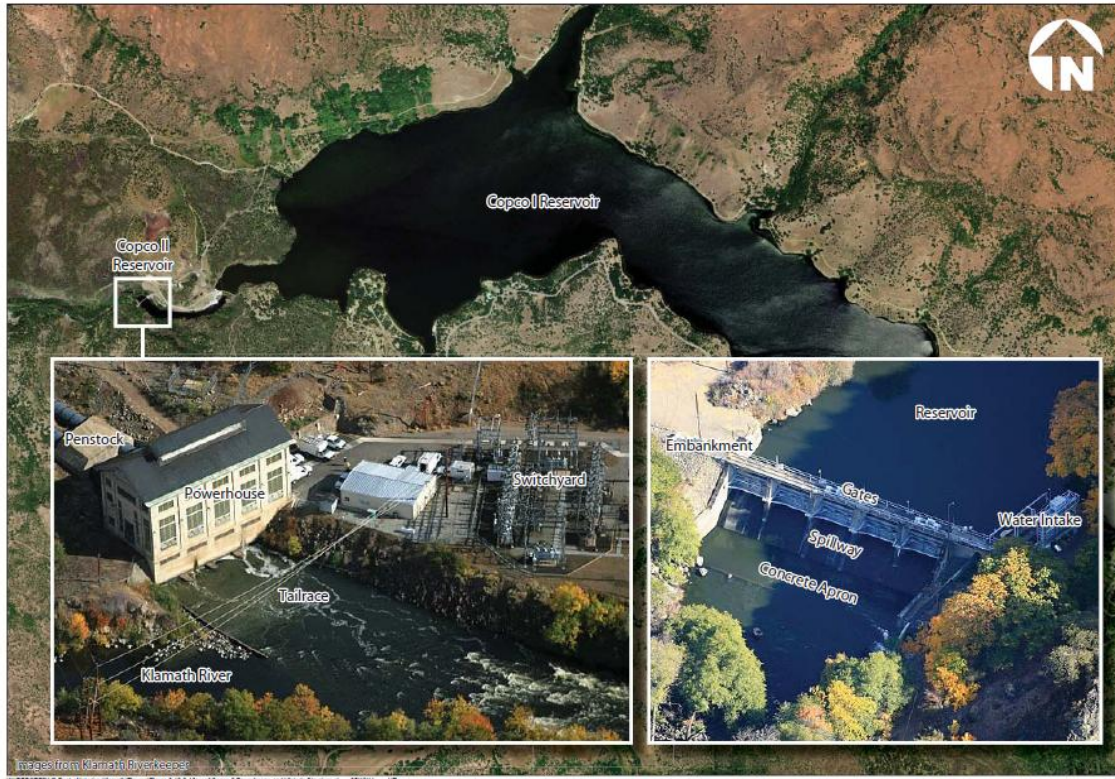
*The Proposed Action would result in impacts on scenic resources from the removal of some historic properties.* Some of the facilities (the Copco 2 facilities shown in Figure 3.19-8, for example) are considered historic properties (FERC 2007), and their removal would require consultation with the California State Historic Preservation Office (see Section 3.13, Cultural and Historic Resources). In general, the BLM VRM process is based upon the premise that natural appearing landscapes are more highly valued by the public than modified landscapes. Therefore, the removal of buildings to be replaced by natural landscape would be preferred. However, some historic scenery elements may be considered socially valued and their elimination from the scenic character would be considered a significant scenery impact of the project. **The impact on historic properties would be a permanent significant impact. No mitigation measures could be implemented to lessen the visual impact of the loss of historic properties; therefore it would be significant and unavoidable.**



**Figure 3.19-6. Iron Gate Dam before removal (top) and a simulation of what the facility could look like after full removal (bottom)**



**Figure 3.19-7 Copco 1 Dam before removal (top) and a simulation of what the facility could look like after full removal (bottom)**



**Figure 3.19-8. View of Copco 2 Powerhouse and Historic Structure**

*Removal of the Four Facilities could result in short and long-term impacts on scenic resources in formerly inundated reservoir areas.* The Proposed Action would include removal of the dams' associated reservoirs, and substantial changes would occur in the former reservoir area during drawdown and until restoration is complete. The Klamath River in the vicinity of the reservoirs would be reduced to its historic channel width and depth (see Section 3.6, Flood Hydrology), exposing all previously inundated areas except the historic river channel. The receding water would expose reservoir sediments at the bottom of the reservoir. Since sediment in the reservoirs is less than five feet deep in general, the river channel would not appear to be entrenched or flowing through mud, but rather, would appear very similar to conditions before the river was impounded (with exception of vegetation not yet becoming established). Depending on the sediment, odors may be evident while the reservoir bottoms dry out and new vegetation is established (riverside revegetation planned as part of the project is described below). Erosion of the reservoir sediment and slumping of the sediment is anticipated, followed by drying, cracking, and hardening of the sediment prior to the establishment of vegetation. Existing wetland vegetation on the reservoir shorelines may also die off temporarily, though it may repopulate the newly formed exposed banks (United States DOI 2011).

The Proposed Action would involve stabilizing and revegetating the newly exposed reservoir areas with herbaceous and woody vegetation. Until the restoration was complete, however, the area would appear barren and/or sparsely vegetated. The facilities removal schedule estimates that removal of the facilities and appurtenant structures would be completed in stages and would take approximately a year and a half with the objective of revegetation of 75 percent of the reservoir area by desirable vegetation that would provide minor and temporary scenery improvements within three years following dam removal. As discussed, establishment of woody vegetation with cover and density similar to adjacent natural woodlands would take many years to attain. This schedule translates to approximately four and a half years during which the area of analysis would be in a highly visible state of transition, and several more years where contrast from adjacent natural woodlands would be evident. The exposure of previously inundated areas would be considered a moderate contrast from the existing condition because it would dominate the landscape and would encompass a large area surrounding the river. It would likely be visible from various KOPs around each of the reservoirs.

Although revegetation of herbaceous species in barren and/or sparsely vegetated areas may be achieved in the short-term (one to three years), it should be noted that this is not necessarily consistent with restoration of natural appearing vegetation patterns below and above the reservoir line. Natural appearing vegetation patterns with woody riparian vegetation may take long-term (10 to 50+ years) to develop. Although the condition is considered temporary because the characteristic landscape is expected to be rehabilitated, some adverse scenery impacts would be extensive and long-term. In a report prepared for the California State Coastal Conservancy, Philip Williams and Associates, LTD estimated that it will take 30 years for the river corridor habitats to fully recover from the dam removals (Phillip Williams and Associates [PWA] 2009). **The impact on scenic resources would be a significant impact that would occur in both the short and long term, until vegetation has become established. No mitigation measures could be implemented to lessen the impact on scenic resources; therefore it would be significant and unavoidable.**

*Deconstruction and restoration activities could result in short-term impacts on scenic resources in the immediate vicinity of the Four Facilities.* Removal of the dam facilities and associated structures would be completed in stages over one year, with primary deconstruction activities occurring over a three-month period. During the deconstruction, the area of analysis would have large construction vehicles and equipment, temporary structures (e.g., trailers, portable toilets, security fencing, temporary power supply, fueling stations), temporary access roads, equipment storage areas, material stockpiles, piles of demolition materials (rock, concrete, steel), and other common construction items that would detract from the natural surroundings. The construction activities would be considered weak to strong contrasts, depending on the amount of vehicles, equipment, and materials in any given area. Some stockpiling areas may be visible but may not stand out in some areas because the color and form of the materials may blend in to the surrounding landscape. However, typically temporary stockpiling of dam fill materials, larger vehicles, and equipment would be a moderate to strong contrast as the color and form would stand out substantially from the existing landscape. Some scenic resources,

such as trees, rocks, and vegetation, particularly in the immediate vicinity of the dams, would need to be removed. Dust emissions from project activities may also temporarily impact views and enjoyment of the river. However, as part of the decommissioning plan, prior to initiation of deconstruction or construction activities, the contractor will be required to prepare and implement a worker Health and Safety Plan prior to the start of construction activities. The Health and Safety Plan will include proper housekeeping and best management practices (BMPs) to keep the construction areas orderly and suppress dust emissions, as required.

During deconstruction, the area would be inconsistent with the VRM classification for the surrounding area. After construction, all vehicles, equipment, and stockpiles would be removed and the area would be restored. **The impact on scenic resources would be significant; this impact would occur temporarily, until deconstruction was complete. No mitigation measures could be implemented to lessen the impact on scenic resources; therefore it would be significant and unavoidable in the short term. As described above, removal of the facilities would benefit scenic resources in the long term through the restoration of the characteristic natural landscape.**

*Construction of a new, elevated City of Yreka water supply pipeline and steel pipeline bridge to support the pipe above the river could result in short and long-term impacts on scenic resources.* The new prefabricated steel pipe bridge would likely be three spans with a center span of 200 feet and two end spans of 100 feet. The spans would be supported on concrete piers. The new pipeline would be connected to the existing buried pipeline at each end of the bridge. New structures would be painted (or manufactured) to blend with the natural color of the landscape. **The impact on scenic quality would be a significant impact that would occur in both the short and long term. No mitigation measures could be implemented to lessen the impact on scenic quality; therefore it would be significant and unavoidable.**

*Replacement of the existing wooden Lakeview Bridge just downstream of Iron Gate Dam with a concrete bridge could result in short and long-term impacts on scenic resources.* If it is determined that the Lakeview Bridge is not adequate to support the construction traffic from the decommissioning activities, it would be replaced with a concrete bridge in the same location. There would be short-term significant impacts on scenic quality during construction from the presence of construction equipment. Long-term impacts on scenic quality from the change from a wooden to concrete bridge would be less than significant. **The impact on landscape would be a temporary significant and unavoidable impact; however, in the long-term impacts on scenic quality would be less than significant.**

*Relocation of existing recreation facilities, such as campgrounds and boat ramps, from the reservoir banks to the new river shoreline would result in short and long-term impacts on scenic resources.* There would be short-term significant impacts on scenic quality during construction of the new recreation facilities from the presence of construction equipment and temporary loss of vegetation. In the long-term, impacts on scenic quality from the change of location of the recreation facilities from the reservoir

shoreline to the river shoreline would be less than significant. **The impact on landscape would be a temporary significant and unavoidable impact; however, in the long-term impacts on scenic quality would be less than significant.**

*Deconstruction could create a new source of light or glare that could adversely affect nighttime views in the area.* Temporary lighting would be erected for nighttime activities, and security lighting might be required during deconstruction. This light could cause glare that would adversely affect day or nighttime views in the area, particularly for visitors and residents whose homes are near the dam sites, such as the residences near the Copco Development. **The impact on nighttime views would be a significant impact that would occur temporarily, until deconstruction was complete. Mitigation Measure SQ-1 would reduce this impact to less than significant.**

*Drawdown and removal of the four reservoirs could cause temporary changes in the appearance of the Klamath River in the area of the dams and downstream from Iron Gate Dam.* As part of the Proposed Action, the reservoirs would be drawn down, allowing the Klamath River to return to a natural channel depth and width. Hydrologic modeling (see Section 3.6, Flood Hydrology) indicates that the flows in the Klamath River would not be expected to be substantially different from historic conditions after the effects of the initial drawdown passed. Water flow levels are expected to remain very similar to current flow levels and the existing river channel configuration patterns would likely be continued. In the short-term, water aesthetics (clarity, turbidity (depth of view), and color) in the receding reservoir and downstream river reaches would likely be affected as the sediment behind the dams erodes and washes downstream (see Section 3.2, Water Quality). In addition to reducing water clarity for a few weeks, the temporary pulse of sediment could also cause possible short term deposition in eddies and slack water pools until subsequent annual flood events move the sediment to the ocean. Depending on the severity of the color change, this would represent a weak to moderate contrast from the existing condition and could be visible from quite a distance, especially from higher elevation viewpoints along the river canyon. **The impact on the appearance of the Klamath River would be a temporary significant impact. No mitigation measures could be implemented to lessen the impact on scenic resources; therefore it would be significant and unavoidable. The impact on scenic resources would be temporary but remain significant and unavoidable.**

*Removal of the dams and facilities could result in long-term impacts on scenic resources from changes to water quality.* As described in Section 3.2, Water Quality, removal of the dams at the Four Facilities is expected to improve water quality in the long-term. The changes are expected to reduce the river's summer algae concentrations, resulting in changes in both water clarity and coloration. An improvement in water quality could result in some improvement in scenic resources, such as water clarity or fish viewing opportunities. These improvements would be most noticeable from on-river and riverside viewpoints, and much less noticeable from river canyon roadway and community viewpoints. **Improvements to water quality would have a beneficial effect on scenic resources.**

### **Keno Transfer**

*The Keno Transfer could have adverse effects to scenic quality.* The Keno Transfer is a transfer of title for the Keno Facility from PacifiCorp to the DOI. This transfer would not result in the generation of new impacts on scenic quality compared with existing facility operations. Following transfer of title, DOI would operate Keno in compliance with applicable law and would provide water levels upstream of Keno Dam for diversion and canal maintenance consistent with agreements and historic practice (KHSa Section 7.5.4). **Therefore, the transfer of Keno to the DOI would result in no change from existing conditions.**

### **East and West Side Facilities**

*The decommissioning of the East and West Side Facilities could have adverse effects on scenic quality.* Decommissioning of the East and West Side canals and hydropower facilities of the Link River Dam by PacifiCorp as a part of the KHSa will redirect water flows currently diverted at Link River Dam into the two canals, back in to Link River. There will be temporary visual resource effects during facility deconstruction activities. Long-term effects would be dependent on future land use, which is not identified at this time. **Therefore, the decommissioning of the East and West Side Facilities would have a less than significant effect on scenic quality.**

### **KBRA**

The KBRA, which is a component of the Proposed Action, includes several programs that could result in impacts on scenic resources, including:

- Phases I and II Fisheries Restoration Plans
- Fisheries Reintroduction and Management
- Fish Entrainment Reduction
- Wood River Wetland Restoration
- Water Diversion Limitations
- On-Project Plan
- Water Use Retirement Program (WURP)
- Interim Flow and Lake Level Programs
- Klamath Tribes Interim Fishing Site

### **Phases I and II Fisheries Restoration Plans**

*Construction activities associated with the Fisheries Restoration Plan - Phase I and Phase II could result in impacts on scenic resources.* The Fisheries Restoration Plan would include measures to restore riparian and floodplain vegetation throughout the Klamath Basin. Actions that could have impacts on scenic resources within the project area include those where construction or restoration activities would occur, due to the presence of construction equipment and temporary loss of vegetation. These actions include the following:

- Floodplain rehabilitation
- Wetland and aquatic habitat restoration
- Woody debris placement

- Fish passage correction
- Cattle exclusion fencing
- Mechanical thinning and prescribed burning
- Road decommissioning
- Gravel augmentation

These actions would result in temporary impacts on scenic resources within localized construction areas. The restoration actions would not occur in the same location or at the same time as the hydroelectric facility removal actions to contribute to or change potential effects of dam removal on scenic resources. **Therefore, impacts on scenic resources would be less than significant during construction.**

*The Fisheries Restoration Plan- Phase I and Phase II could result in long-term impacts on scenic resources.* These programs are intended to benefit fish populations and therefore increase fish viewing opportunities, which would result in beneficial effects to scenic resources. In addition, actions are anticipated to result in scenery more consistent with the naturally established, characteristic landscape. These actions would not occur in the same location as hydroelectric facility removal actions and would not affect any scenic improvements as a result of dam removal. **However, they are anticipated to result in beneficial effects to scenic resources.**

#### **Fisheries Reintroduction and Management Plan**

*Construction activities associated with fish collection facilities would introduce new features into the landscape.* Trap and haul operations within the Fisheries Reintroduction and Management Plan would require construction of fish collection and handling facilities at Keno and Link River Dams to seasonally move fish around Keno Impoundment and Link River during times of poor water quality. Constructing these facilities would result in temporary impacts on scenic resources at Keno and Link River Dams, and the fish handling facilities would remain in the long term to change the visual landscape. The handling facilities at Keno and Link River Dams would not be in the same visual area as the Four Facilities; therefore, construction of fish handling facilities would not compound the effects of facility removal actions. **The impacts on scenic resources would be less than significant during construction. However, the impact to scenic resources from the addition of the fish management structures could be a significant, permanent impact. No mitigation measures could be implemented to lessen the impact on scenic quality; therefore, it would be significant and unavoidable.**

#### **Wood River Wetland Restoration**

*The Wood River Wetland Restoration Project could result in long-term impacts on scenic resources.* This project would be a new project designed to provide additional water storage for a total of 16,000 AF of storage in or adjacent to Agency Lake (see Section 2.4.3.8). Depending upon the final outcome of the project design it could provide additional wetland habitat with naturally established, characteristic landscapes beneficial to scenic resources. However, if changes result in more open water storage only (no

wetlands), this is not consistent with the naturally established, characteristic landscape. **Open water storage views would be a less than significant impact to scenic resources. This wetland restoration action would not occur in the same visual setting as the hydroelectric facility removal actions and would not affect scenic quality effects of dam removal.**

#### **Water Diversion Limitations, On-Project Plan, WURP, and Interim Flow and Lake Level Program**

*Construction activities associated with the WURP could result in impacts on scenic resources.* Construction actions would include removal of juniper trees. This could result in temporary impacts on scenic resources within localized areas. Juniper removal actions would be in a different location from the removed hydroelectric facilities analyzed above, which would reduce the potential for any scenic quality impacts generated by juniper removal actions from contributing to the effects of facility removal. **Therefore, impacts on scenic resources would be less than significant during construction.**

*The Water Diversion Limitations, On-Project Plan, WURP, and Interim Flow and Lake Level Programs could result in long-term impacts on scenic resources.* Changes in land uses, including changes from rangeland to water storage areas, could occur under these programs. These actions would not occur at the same location or time as hydroelectric facility removal, which would reduce the potential for any scenic quality impacts generated by these programs from contributing to the effects of facility removal. **These changes have the potential to be beneficial if they result in landscapes (wetlands) that are consistent with the naturally established, characteristic landscape. However, if changes result in more open water storage only (no wetlands), this is not consistent with the naturally established, characteristic landscape and would be a less than significant impact to scenic resources.**

#### **Fish Entrainment Reduction**

*Construction activities associated with Fish Entrainment Reduction could result in impacts on scenic resources.* Construction actions would result in temporary impacts on scenic resources within localized construction areas. Fish entrainment reduction construction actions would not occur at the same location or time as the hydroelectric facility removal actions. As a result, scenic quality impacts generated by these construction actions would not contribute to or change the scenic quality effects of facility removal actions. **Therefore, impacts on scenic resources would be less than significant during construction.**

*Fish Entrainment Reduction could result in long-term impacts on scenic resources.* This action is anticipated to benefit fish populations and therefore increase fish viewing opportunities, which would result in beneficial effects to scenic resources. However, the entrainment reduction facilities would likely be inconsistent with the naturally established, characteristic landscape, which would be an adverse effect. The installation of fish screens would occur at various existing water diversion structures for the Klamath Reclamation Project and would not result in a substantial change from existing

inconsistencies with natural landscapes. Entrainment reduction facilities would not be near the hydroelectric facilities and would not contribute to or change any scenic quality impacts of facility removal. **Impacts on scenic resources would be less than significant.**

#### **Klamath Tribes Interim Fishing Site**

*Construction activities associated with the Klamath Tribes Interim Fishing Site could result in impacts on scenic resources.* Construction actions would result in temporary impacts on scenic resources within localized construction areas. This construction action would not occur in the same location or at the same time as the hydroelectric facility removal actions. As a result, it would not contribute to or change any scenic quality impacts of facility removal. **Impacts on scenic resources would be less than significant during construction. In the long-term changes generated by the presence of the interim fishing site would be anticipated to retain consistency with the naturally established, characteristic landscape and would be a less than significant.**

#### **Alternative 3: Partial Facilities Removal of Four Dams**

Under the Partial Facilities Removal of Four Dams Alternative, certain project features would be retained, while providing the requirements for a free-flowing river and for volitional fish passage through all four dam sites. Table 3.19-2 summarizes which facilities would be retained under the Partial Facilities Removal of Four Dams Alternative.

Figure 3.19-6 and 3.19-7 show photo-simulations of the partial removal of Iron Gate Dam and Copco 1 Dam, respectively.

*The Partial Dam Removal Alternative could result in impacts on scenic resources from the removal of the four dams and some facilities.* Impacts on scenic resources would be similar to the Proposed Action. The facilities which remain could continue to be inconsistent with the VRM classification for the surrounding area. Removal of some facilities would result in a landscape that would appear more similar to the surrounding characteristic natural landscape. **Therefore, there would be a beneficial effect on scenic resources.**

**Table 3.19-2. Summary of Features that Would Be Removed under the Proposed Action Alternative and that would be Retained under the Partial Facilities Removal Alternative**

Feature	Proposed Action - Full Facilities Removal	Partial Facilities Removal
<b>J.C. Boyle</b>		
- Steel Pipeline and Supports	Remove	Retain
- Powerhouse	Remove	Retain
- Tailrace Channel Area	Remove	Retain
- Power Conveyance Intake	Remove	Retain
- Canal Intake (Screen) Structure	Remove	Retain
- Canal Spillway Channel Area	Remove	Retain
- Tailrace Flume Walls	Remove	Retain
<b>Copco 1</b>		
- Powerhouse	Remove	Retain
- Powerhouse intake structure	Remove	Retain
- Penstocks	Remove	Retain
- Diversion Intake and Gate Structure	Remove	Retain
<b>Copco 2</b>		
- Steel Penstock, Supports and Anchors	Remove	Retain
- Powerhouse	Remove	Retain
- Embankment Section	Remove	Retain
- Switchyard	Remove	Retain
- Tunnel Intake Structure	Remove	Retain
<b>Iron Gate</b>		
- Powerhouse	Remove	Retain
- Fish Hatchery	Retain	Retain

Source: River Design Group. 2010a.

*Under the Partial Dam Removal Alternative the DRE would remove some of the historic properties.* (see Section 3.13, Cultural and Historic Resources) In general, buildings are considered visually dominant modifications to the naturally established “characteristic landscape”, however, some facilities could be identified as positive scenery attributes. Therefore, the effects related to the removal of historic properties could be positive, negative, or neutral to scenic resources depending on the historic building. For example, the Copco 2 powerhouse is often perceived as a positive scenery attribute while the J.C Boyle powerhouse is not (compare Figures 3.19-8 with 3.19-9). Under the Partial Facilities Removal Alternative, the J.C. Boyle powerhouse, Copco No. 1 powerhouse, and Copco No. 2 powerhouse would remain as visually dominant modifications to the naturally established “characteristic landscape”. The facilities which remain could continue to be inconsistent with the VRM classification for the surrounding area. The condition of the remaining structures could degrade over time, particularly the facilities

that would no longer be in use (J.C. Boyle powerhouse and Copco No. 2 powerhouse), and would likely not receive as much maintenance as the facilities still in use. **The impact on historic properties would be a permanent significant impact. No mitigation measures could be implemented to lessen the visual impact of the loss of historic properties; therefore, it would be significant and unavoidable.**



**Figure 3.19-9. View of J.C. Boyle Powerhouse**

*Removal of the Four Facilities could result in short and long term impacts on scenic resources in formerly inundated reservoir areas.* The effects would be similar to the Proposed Action. **The impact on scenic quality would be a significant impact that would occur in both the short and long term, until vegetation has become established. No mitigation measures could be implemented to lessen the impact on scenic quality; therefore it would be significant and unavoidable.**

*Deconstruction and restoration activities could result in short-term impacts on scenic resources in the immediate vicinity of the Four Facilities.* Deconstruction activities would not meet the VRM classification for the surrounding area. **This impact would occur temporarily, until deconstruction was complete. No mitigation measures could be implemented to lessen the impact on scenic quality; therefore it would be significant and unavoidable in the short term.**

*Construction of a new, elevated of a City of Yreka water supply pipeline and steel pipeline bridge could result in impacts on scenic quality.* The impact on the scenic quality would be the same as the Proposed Action. **It would be a significant impact that would occur in both the short and long term. No mitigation measures could be implemented to lessen the impact on scenic quality; therefore it would be significant and unavoidable.**

*Replacement of the existing wooden Lakeview Bridge could result in impacts on scenic quality.* The impact on the scenic resources would be the same as the Proposed Action. **The impact on the landscape would be a temporary significant impact; however, the long term impact on scenic quality would be less than significant.**

*Relocation of existing recreation facilities could result in impacts on scenic quality.* The effects on scenic resources would be the same as for the Proposed Action. **The impact on the landscape would be a temporary significant impact; however, the long term impact on scenic quality would be less than significant.**

*Deconstruction could create a new source of light or glare that would adversely affect nighttime views in the area.* The effects would be the same as the Proposed Action. **This would be a significant impact that would occur temporarily, until deconstruction was complete. Mitigation Measure SQ-1 would reduce this impact to less than significant.**

*Drawdown and removal of the four reservoirs could cause temporary changes in the appearance of the Klamath River in the area of the dams and downstream from Iron Gate Dam.* The effects would be the same as those described for the Proposed Action. **The impact on the Klamath River would be a temporary significant impact. No mitigation measures could be implemented to lessen the impact on scenic resources; therefore, the impact on scenic quality would be temporary but significant and unavoidable.**

*Partial Removal of the Four Dams Alternative could result in water quality impacts that could have long-term impacts on scenic resources.* The effects would be the same as those described for the Proposed Action. **Restoring the river's water quality would have a beneficial effect on scenic quality.**

#### **Keno Transfer**

The effects of the Keno Transfer to visual resources would be the same as under the Proposed Action

#### **East and West Side Facilities**

The effects of East and West Side Facilities decommissioning would be the same as for the Proposed Action.

**KBRA**

Under the Partial Facilities Removal of Four Dams Alternative, the KBRA would be fully implemented and the effects would be similar to those described for the Proposed Action.

**Alternative 4: Fish Passage at Four Dams**

Under the Fish Passage at Four Dams Alternative, no facilities removal (except for demolition of existing fish ladders) would be conducted at the Four Facilities. Fishways would be built at each of the four dams in the form of pool and weir, vertical slot, ice harbor, or hybrid fish ladder with auxiliary water systems.

*Continued impoundment at the reservoirs would result in water quality impacts that could have long-term impacts on scenic quality.* As described in Section 3.2, Water Quality, water quality conditions would remain the same as the under the No Action Alternative. **There would be no change from the existing condition.**

*Continued existence of the buildings and other man-made structures could have the impact that some areas would remain inconsistent with the VRM classification of the surrounding area.* In general, retained structures and facilities would not benefit scenic quality since they are visually dominant modifications to the naturally established “characteristic landscape”. In addition, under the Fish Passage at Four Dams Alternative, PacifiCorp’s analysis (2004) identified some project features as being currently not consistent with the VRM classification of the surrounding area. Therefore, the areas with these structures would not be able to achieve consistency with the VRM classification of the surrounding area. **There would be no change from the existing condition.**

*Demolition, construction, and restoration activities for the fishways could cause short-term adverse effects on the scenic vistas in the immediate vicinity of the Four Facilities.* Under the Fish Passage at Four Dams Alternative, selective demolition would be required to accommodate modifications for the fishways and appurtenances. Demolition and construction would be completed within one year. During construction, the area of analysis could have large construction vehicles and equipment, temporary structures (e.g., trailers, portable toilets, security fencing, temporary power supply, and fueling stations), temporary access roads, equipment storage areas, material stockpiles, and other items that would detract from the natural surroundings in terms of visuals, noise, and smells. Bare soil expanses would be visible where temporary roads were constructed, and where excavated soil was moved. Some scenic resources, such as trees, rocks, and vegetation in the work area could be removed. The construction activities would be considered moderate contrasts as the color and form of vehicles and equipment would stand out from the existing landscape but would be unlikely to be visible from great distances. **The impact on scenic resources would be significant; this impact would occur temporarily, until construction was complete. No mitigation measures could be implemented to lessen the impact on scenic quality; therefore it would be significant and unavoidable.**

*Construction could create a new source of light or glare that could adversely affect nighttime views in the area.* Temporary lighting would be erected for nighttime

activities, and security lighting might be required during deconstruction. This light could cause glare that would adversely affect day or nighttime views in the area. This effect could affect visitors and residents whose homes are near the dam sites, such as the residences near the Copco Development. **The impact on nighttime views would be a significant impact that would occur temporarily, until deconstruction was complete, but Mitigation Measure SQ-1 would reduce this impact to less than significant.**

*Construction of fishways could cause changes in the appearance of the Klamath River in the area of the dams and downstream from Iron Gate Dam.* No long-term changes to the water levels in the reservoirs and downstream river reaches would be expected with the construction of the fish fishways. In the short-term water aesthetics (clarity, turbidity (depth of view), and color) in the reservoir and downstream river reaches could be affected by construction in the waterways. It is anticipated that gravity diversions, coffer dams, physical barriers (e.g., sand/gravel bag berms, sheetpiling, concrete blocks), and pumps would be required to isolate and/or dewater work areas for the water intakes and construction of the V-screens within the reservoirs. In addition, nets or screens would be required to prevent aquatic organisms from entering the work area. All of this equipment could cause short-term scenic and water quality impacts while employed. Any change in color from increased sediment would represent a weak contrast from the existing condition because it would likely not be visible for long distances and would occur on a small scale. Additionally, implementation of a Stormwater Pollution Prevention Plan and other measures described in Water Quality would reduce the impacts associated with clarity and color changes. **The impact on the appearance of the Klamath River would be a less than significant, temporary impact.**

*Fishways could cause substantial long-term impacts on scenic resources.* The addition of the fishways would change the scenic character in the vicinity of the dams by adding hardscape elements that would blend with the facility features but would not blend with the natural landscape and could dominate views due to their size. At Copco 1 and Iron Gate Dams, the fishway structures would be particularly large (see Table 3.19-3) in order to accommodate the vertical drops, which would be 124 feet and 157 feet, respectively. Figures 2-21 (J.C. Boyle), 2-22 (Copco 1), 2-24 (Copco 2), and 2-26 (Iron Gate) from Chapter 2, Proposed Action and Description of the Alternatives, show conceptual layouts for the fishways.

**Table 3.19-3. Minimum Structure Footprint for Fish Ladders under the Fishway Alternatives**

Dam	Minimum Structure Footprint (sq. ft.)
<b>Fishway at Four Dams</b>	
J.C. Boyle	8,712
Copco 1	17,928
Copco 2	3,168
Iron Gate	22,608
<b>Total</b>	<b>52,416</b>
<b>Fishway at Two Dams</b>	
J.C. Boyle	8,712
Copco 2	3,168
<b>Total</b>	<b>11,880</b>

Source: River Design Group 2010b.

Although the fishways have not yet been designed, they likely could display angular geometry, continuous straight lines, and flat surfaces that may moderately contrast with the colors, forms, and textures of the surrounding characteristic landscape, or may be insignificant compared to scenery impacts of the existing dam facilities. Installation of V-screens at J.C. Boyle, Copco 2 and Iron Gate and a floating surface bypass collector at Copco 1 would introduce new permanent facilities near the existing intakes visible from the surface of each reservoir but would not be anticipated to dominate the landscape given their relative scale when compared to the dam facilities. Example cast in place pool and weir fish ladders that are proposed for use at the four dams are shown in Figures 3.19-10 and 3.19-11. **The impact to scenic resources from the addition of the fishways could be a significant, permanent impact. No mitigation measures could be implemented to lessen the impact on scenic quality; therefore it would be significant and unavoidable.**

#### **Trap and Haul – Programmatic Measure**

*Construction activities associated with fish collection facilities would introduce new features into the landscape.* Trap and haul operations would require construction of fish collection and handling facilities at Keno and Link River Dams to seasonally move fish around Keno Impoundment and Link River during times of poor water quality. Constructing these facilities would result in temporary impacts on scenic resources at Keno and Link River Dams, and the fish handling facilities would remain in the long term to change the visual landscape. **The impacts on scenic resources would be less than significant during construction. However, the impact to scenic resources from the addition of the fish management structures could be a significant, permanent impact. No mitigation measures could be implemented to lessen the impact on scenic quality; therefore, it would be significant and unavoidable.**



**Figure 3.19-10. Example of cast in place pool and weir fish ladder used for fish passage, similar to that proposed for upstream fish passage for all four dams under this alternative**



**Figure 3.19-11. Example of fish ladder built into steep bedrock similar to Copco 1 option (photo courtesy of GEI Consultants)**

**Alternative 5: Fish Passage at J.C. Boyle and Copco 2, Remove Copco 1 and Iron Gate**

Under the Fish Passage at J.C. Boyle and Copco 2, Remove Copco 1 and Iron Gate Alternative, all facilities would be removed at Copco 1 Dam and Iron Gate Dam, and fish passage facilities would be constructed at J.C. Boyle and Copco 2 Dams.

The effects of the Fish Passage at J.C. Boyle and Copco 2, Remove Copco 1 and Iron Gate Alternative would be similar to those of the Proposed Action and the Fish Passage at Four Dams Alternative.

*As with the Proposed Action, demolition of Copco 1 and Iron Gate Dams could have long-term scenic effects, including the removal of two dams and reservoirs, and changes from reservoir to river views in the areas near Copco 1 and Iron Gate Dams. **Restoring natural riverine scenery would be a beneficial effect.***

*As with the Fish Passage at Four Dams Alternative, the addition of fishways at the J.C. Boyle and Copco 2 Developments could have long-term impacts on scenic resources. **Mitigation measures may be implemented to lessen the impact on scenic resources; however, the adverse impact on scenic quality could be significant, depending upon size, location and design of fishway facilities. Therefore, the impact on scenic resources could be significant and unavoidable.***

*Temporary deconstruction and construction scenic impacts would be similar to those under the Proposed Action for Copco 1 and Iron Gate Dams sites and could be significant. **No mitigation measures could be implemented to lessen these temporary impacts on scenic quality; therefore they would be significant and unavoidable.***

*Some areas would remain inconsistent with the VRM classification of the surrounding area. The project features that are currently inconsistent with their VRM classification and would remain as visually dominant modifications to the naturally established “characteristic landscape” are: the J.C. Boyle powerhouse and penstocks, J.C. Boyle Dam, bypass canal, and transmission line and Copco No. 2 powerhouse and substation, and the Iron Gate Dam, bypass spillway, powerhouse, penstock, and associated landform and vegetation disturbances. **There would be no change from the existing condition.***

*Lighting impacts would be the same as those under the Proposed Action at the J.C. Boyle and Copco 2 sites and could be significant. **Mitigation measure SQ-1 would reduce this impact to less than significant.***

**Trap and Haul – Programmatic Measure**

*Construction activities associated with fish collection facilities would introduce new features into the landscape. The trap and haul measures around Keno Impoundment and Link River would have the same impacts under the Fish Passage at J.C. Boyle and Copco 2, Remove Copco 1 and Iron Gate Alternative as the Fish Passage at Four Dams Alternative. **The impacts on scenic resources would be less than significant during construction. However, the impact to scenic resources from the addition of the fish management structures could be a significant, permanent impact. No mitigation***

**measures could be implemented to lessen the impact on scenic quality; therefore, it would be significant and unavoidable.**

#### **3.19.4.4 Mitigation Measures**

The following mitigation measure would reduce the significant impact associated with light and glare to less than significant.

##### **Mitigation Measure by Consequences Summary**

*Mitigation Measure SQ-1* - To reduce nighttime light and glare on surrounding residences during construction, the DRE will require the use of reflectors, shields, directional lighting, or other appropriate methods to reduce glare. All lighting will be turned off when not in use and/or motion-controlled lighting will be used, where feasible. Permanent lighting needed for security will be selected to be “dark sky friendly<sup>1</sup>” to reduce glare to the surrounding area. “Dark sky friendly” lighting accessories or alternatives to typical lighting systems will be used, where feasible.

##### **Effectiveness of Mitigation in Reducing Consequences**

Implementation of mitigation measure SQ-1 would reduce nighttime light and glare on surrounding residences to less than significant.

##### **Agency Responsible for Mitigation Implementation**

The DRE will be responsible for implementing mitigation measure SQ-1.

##### **Remaining Significant Impacts**

The temporary, short-term impacts from deconstruction, construction, and restoration remain significant and unavoidable as no feasible mitigation can reduce the impacts to less than significant without changes to the construction schedules. The long-term changes in scenic resources, including removal of facilities and changes from reservoir to river views under some alternatives would be significant and unavoidable.

##### **Mitigation Measures Associated with Other Resource Areas**

Several other mitigation measures involve construction work, including mitigation measures H-2 (flood-proof structures), GW-1 (deepen or replace affected wells), WRWS-1 (modify or screen affected water intakes), PHS-4 (repair damaged roads), PHS-5 (construct water storage tanks for firefighting), REC-1 (develop new recreational facilities and access to river), TR-6 (assess and improve roads to carry construction loads), and TR-7 (assess and improve bridges to carry construction loads). Construction equipment associated with the mitigation measures would detract from the natural surroundings. The construction activities would be considered weak to moderate contrasts, depending on the amount of vehicles, equipment, and materials in any given area. Effects would be temporary and would not disrupt large expanses of the natural setting. The impact on scenic quality from implementation of mitigation measures listed above would be less than significant.

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<sup>1</sup> <http://www.darksky.org/mc/page.do?sitePagelId=118983&orgId=idsa>

### 3.19.5 References

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